

REMARKS

In view of the following remarks, the Examiner is requested to allow Claims 1, 2, 4-10, 12-28 and 35, as well as newly presented Claims 36-39, the only claims pending and under examination in this application.

Claims 1, 12, 17 and 22 have been amended to clarify the claim language and further define the invention. Support for these amendments can be found on p. 6 lines 10-21 (paragraph 0017); p. 12 line 28 to p. 13 line 3 (paragraph 0037); and p. 16 lines 4-16 (paragraph 0044). New claims 36 to 39 further specify the nature of the fluid. Accordingly, no new matter has been added. As no new matter has been added by way of these amendments, entry thereof by the Examiner is respectfully requested.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 2, 4, 6-10, 12, 13, 15-18, 20, 21, and 35 have been rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Caren et al. (U.S. 6,221,653; 04/24/2001).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

An element of the rejected claims as currently amended is depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate.

The definition of reagent is as follows: "a substance used in a chemical reaction to detect, measure, examine, or produce other substances."
(American Heritage Dictionary.)

Caren (6,221,653) is directed to deposition of sample on an array. The Examiner has not pointed to where Caren discloses deposition of a protein reagent onto a substrate.

Accordingly, the Applicants contend that Caren '653 does not anticipate the claims because Caren does not disclose deposition of a protein reagent on a substrate. Therefore, the Applicants respectfully request that the 35 U.S.C. § 102(a) rejection of Claims 1, 2, 4, 6-10, 12, 13, 15-18, 20, 21, and 35 be withdrawn.

Claims 1, 2, 4, 6-10, 12, 13, 15-18, 20, 21, and 35 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by, or alternatively under 35 U.S.C. § 103(a) as being obvious over Caren et al. (U.S. 6,797,469 B2, 09/28/2004; filed 3/26/2001).

With respect to the 35 U.S.C. § 102(e) rejection, as reviewed above, an element of the rejected claims as currently amended is depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate, in manner that retains the reagent's functionality.

The Examiner has not pointed to a location where Caren discloses deposition of a protein reagent.

Accordingly, the Applicants contend that Caren '469 does not anticipate the claims because Caren does not disclose deposition of a protein reagent onto a surface of a substrate.

With respect to the 35 U.S.C. § 103(a) rejection, since Caren '469 was published after the filing date of the present Application, Caren can only constitute prior art to the present application under 35 U.S.C. § 102(e).

MPEP § 706.02(I)(1) states:

Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102 (e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. This change to 35 U.S.C. 103(c) applies to all utility, design and plant patent applications filed on or after November 29, 1999, including continuing applications filed under 37 CFR 1.53(b), continued prosecution application filed under 37 CFR 1.53(d), and reissues."

The invention claimed in the instant patent application was subject to an obligation of assignment to Agilent Technologies, Inc. An assignment executed by inventors Diane D. Ilsley, Douglas A. Amorese, Michael P. Caren, Peter Tsang was recorded on 04/02/2003 (Reel/Frame 013535/0705).

The parent patent (U.S. Patent No. 6,221,653) of the Caren '469 continuation patent cited as art was owned by Agilent Technologies, Inc. at the time that the invention of the present application was made, as evidenced by an assignment by the Hewlett-Packard Co. to Agilent Technologies, Inc., recorded on 5/30/2000 (Reel/Frame 010977/0540). Previous assignments for the same parent application are from the Hewlett-Packard Co. to the Hewlett-Packard Co. recorded on 4/24/2000 (Reel/Frame 010759/0049), and from the inventors Michael Caren and Kevin Luebke to Hewlett-Packard recorded on 6/28/1999 (Reel/Frame 010048/0983). The assignment extends to cover continuation and divisional applications.

As can be seen in view of these two assignments, the subject matter of the cited Caren patent and the presently claimed invention were, at the time the invention was made, both owned by Agilent or both under an obligation of assignment to Agilent. As such, in accordance with §103(c), the Caren patent

cannot preclude patentability of the claims of the present application under §103.

Therefore, the Caren patent is not available as prior art against the claimed invention of the present application under §102 (e). The claims thus cannot be rejected under § 103(a).

In view of the above arguments, the Applicants respectfully request that the 35 U.S.C. § 102(e) rejection and the 35 U.S.C. § 103(a) rejection of Claims 1, 2, 4, 6-10, 12, 13, 15-18, 20, 21, and 35 over Caren et al. (U.S. 6,797,469) be withdrawn.

Claims 1, 2, 4-10, 12-28, and 35 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by, or alternatively, under 35 U.S.C. § 103(a) as obvious over Deeg et al. (U.S.P.N. 5,338,688; 08/16/1994).

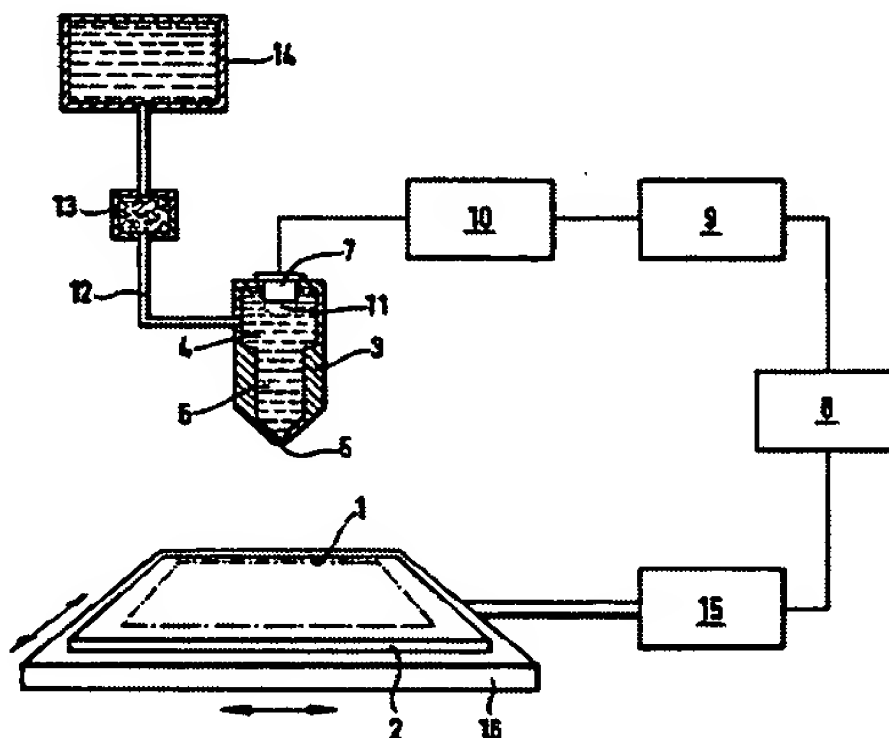
With respect to the rejection under 35 U.S.C. § 102(b), a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

An element of rejected Claims 1, 12, 17, 22, and the claims dependent therefrom, is front loading a fluid into an inkjet head by contacting an orifice with the fluid in a manner so that the fluid flows through the orifice and into a firing chamber. Claims 1, 12, 17 and 22 have been amended to clarify the claim language; support for this amendment can be found in paragraphs 0017, p 6 lines 11-17, and 0018, p 6 lines 22-24.

The Applicants contend that Deeg does not disclose the front loading of a fluid into an inkjet head. The methods disclosed by Deeg describe a traditional use of inkjet heads, where the fluid comes from a reservoir into the firing chamber, and therefore fluid does not go from the orifice into the firing chamber. The

Applicants contend that nowhere does Deeg teach front loading a fluid into an inkjet head by contacting an orifice with the fluid in a manner so that the fluid flows through the orifice and into a firing chamber.

Deeg discloses the apparatus set forth in Fig. 1, below. As can be seen with reference to Fig. 1, element 3 represents the jet head, element 4 represents the jet chamber and element 14 represents a reservoir containing an analytical fluid 6 to be delivered to the surface of the substrate. Reservoir 14 is connected to jet chamber 4 via line 12, which is intersected by filter 13.



Deeg discloses that prior to printing, the analytical fluid 6 is delivered from the reservoir 14 to the jet chamber 4 wherein the fluid is heated by element 7 and ejected via orifice 5. Because the analytical fluid is delivered to the jet head 3 from the reservoir 14 via line 12, it is clear that the jet head 3 is not front loaded by contacting an orifice with the fluid in a manner so that the fluid flows through the orifice and into a firing chamber. If the Deeg apparatus were meant to be front loaded there would be no purpose for line 12, filter 13 and reservoir 14.

Therefore, as can be seen with reference to the above, Deeg does not teach front loading a fluid into an inkjet head, nor does it teach front loading the inkjet head by contacting an orifice with the fluid in a manner so that the fluid

flows through the orifice and into a firing chamber. This has been confirmed by the Examiner in the current Office Action: "the '688 patent does not explicitly teach the step of "front loading said quantity of fluid into a thermal inkjet head...." [p. 8 Office Action of 2-27-07].

The Office asserts, however, that although Deeg does not explicitly teach the step of "front loading said quantity of fluid into a thermal inkjet head..." the claimed inkjet head *inherently* performs the "front loading" process. In maintaining this rejection, the Office directs the Applicants to M.P.E.P. § 2112.02, set forth herein below.

"Under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process." *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986)

However, the inkjet of Deeg does not inherently perform a front loading method, as explained above, and the method disclosed by Deeg does not employ a front loading protocol.

Deeg, in fact, specifically does not teach front loading, because Deeg discloses the use of an "ink jet printing head working on the bubble jet principle" [col. 6, lines 58-59]. The 'normal and usual operation' of the method disclosed in Deeg includes analytical liquid which is first loaded into "disposable jet units" (i.e., cartridges) "which contain the analytical liquid (especially reagents or calibrating liquids) in prepacked form" which are then associated with the inkjet head [column 2, lines 22 to 25]. Deeg also states: "This printing head is accommodated together with an ink reservoir in a removable cartridge" [column 6, lines 67-68].

Deeg states that the advantages of such a method include the ability "economically to manufacture disposable jet units which contain the analytical

liquid (especially reagents or calibrating liquids) in prepacked form." [col. 2, lines 22-25]. and "...a particular advantage of the invention is that it is possible to manufacture a jet unit at such a favorable cost that it can be designed as a disposable element containing a supply of analytical liquid ready for use (prepacked by the manufacturer)." [col. 4, lines 5-9]

From the above, it is clear that not only does Deeg not teach front loading of fluid into the inkjet head, but instead teaches the use of "disposable jet units" (i.e. cartridges) in "prepacked form". Nowhere does Deeg teach front loading of a fluid into an inkjet head; and in fact, a front loading method would not allow for the use of the 'prepacked disposable units' as disclosed in Deeg.

Furthermore, The Office asserts that the term " "front loading" is not specifically defined" and that "it is reasonable to conclude that "front loading" is mainly through "capillary forces" [p10, Office Action 2-27-07].

However, the Applicants respectfully submit that because the Deeg apparatus may be capable of being front loaded does not mean that Deeg actually teaches the method of front loading that apparatus by contacting an orifice of the apparatus with a fluid in a manner so that the fluid flows through the orifice and into a firing chamber.

In fact, when Deeg is viewed as a whole it is clear that Deeg simply does not teach or suggest front loading, let alone front loading by contacting an orifice of an inkjet head with the fluid in a manner so that the fluid flows through the orifice and into a firing chamber.

With respect to the rejection under 35 U.S.C. § 103(a), to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In re Fine, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 21 USPQ2d 1941 (Fed. Cir.

1992). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 231 USPQ 375 (Fed. Cir. 1986). Finally, the prior art reference, or references when combined, must teach or suggest all the claim limitations. In re Royka, 180 USPQ 580 (CCPA 1974). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 20 USPQ2d 1438 (Fed. Cir. 1991).

In view of the discussion *supra*, the Applicants contend that Deeg is deficient in that it fails to teach or suggest all the claim limitations, namely, front loading a fluid into an inkjet head by contacting an orifice of the inkjet head with the fluid in a manner so that the fluid flows through the orifice and into a firing chamber.

Therefore, in view of the above arguments, the Applicants respectfully request that both the 35 U.S.C. § 102(b) rejection and the 35 U.S.C. § 103(a) rejection of Claims 1, 2, 4-10, 12-28, and 35 over Deeg et al. (U.S.P.N. 5,338,688) be withdrawn.

Double Patenting

Claims 1, 2, 9 and 11 have been rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 19-21 and 23 of USPN 6,797,469.

An element of the rejected claims as currently amended include a method for depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate.

The cited claims of Caren (6,797,469) are directed to deposition of sample on an array.

Accordingly, the Applicants contend the requirements for a nonstatutory obviousness-type double-patenting rejection have not been met.

Therefore, the Applicants respectfully request that the nonstatutory obviousness-type double-patenting rejection of Claims 1, 2, 9 and 11 be withdrawn.

Claims 1, 2, and 9 have been rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 3, 5-7, 9, 10, 12, 17, and 19 of USPN 6,221,653.

An element of the rejected claims as currently amended include a method for depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate, in manner that retains the reagent's functionality.

The claims of Caren (6,221,653) are directed to depositing a fluid but do not specifically call out a reagent, where the reagent retains functionality.

Accordingly, the Applicants contend that the requirements for a nonstatutory obviousness-type double-patenting rejection have not been met. Therefore, the Applicants respectfully request that the nonstatutory obviousness-type double-patenting rejection of Claims 1, 2, and 9 be withdrawn.

Claims 1, 2, 9, and 11 have been rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 5, 9, 11-13, 15, and 18 of USPN 6,656,740.

An element of the rejected claims as currently amended include a method for depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate, in manner that retains the reagent's functionality.

The claims of Caren (6,656,740) are directed to a method of fabricating an array of biopolymers by in situ synthesis.

Accordingly, the Applicants contend that the requirements for a nonstatutory obviousness-type double-patenting rejection have not been met. Therefore, the Applicants respectfully request that the nonstatutory

obviousness-type double-patenting rejection of Claims 1, 2, and 9 be withdrawn.

Claims 1, 2, 6, 7, and 8 have been rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-5, 7, and 11-19 of USPN 6,323,043 and claims 1, 2, 4, and 6 of related USPN 6,884,580.

An element of the rejected claims as currently amended include a method for depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate, in manner that retains the reagent's functionality.

The claims of Caren '043 and related application '580 are directed to a method of fabricating an array of biopolymers by in situ synthesis.

Accordingly, the Applicants contend that the requirements for a nonstatutory obviousness-type double-patenting rejection have not been met. Therefore, the Applicants respectfully request that the nonstatutory obviousness-type double-patenting rejection of Claims 1, 2, 6, 7, and 8 be withdrawn.

Claims 1-4 have been rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 3, 8, 12, 14, 15, and 18 of USPN 6,242,266.

An element of the rejected claims as currently amended include a method for depositing a quantity of a fluid containing a protein reagent onto the surface of a substrate, in manner that retains the reagent's functionality.

The claims of Schleifer '266 are directed to a method of fabricating an array of biopolymers by in situ synthesis.

Accordingly, the Applicants contend that the requirements for a nonstatutory obviousness-type double-patenting rejection have not been met. Therefore, the Applicants respectfully request that the nonstatutory

obviousness-type double-patenting rejection of Claims 1, 3, 8, 12, 14, 15, and 18 be withdrawn.

New Rejections

Claim Rejections - 35 U.S.C. § 103

Claims 1, 2, 4-10, 12-28, and 35 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Caren et al (U.S. 6,221,653; 04/24/2001).

The Applicants submit herewith a Declaration of Diane D. Ilsley, Douglas A. Amorese, Michael P. Caren and Peter Tsang under 37 C.F.R. §1.131, which provides a showing of facts that the inventors conceived of the claimed invention prior to the April 24, 2001 issue date of the Caren reference.

In light of this Declaration, the Applicants' contend that Caren does not qualify as prior art to the present application under 102(a) to the present application, but only under 102 (e).

With respect to the impact of the Caren '653 patent under 35 U.S.C. § 102(e), MPEP § 706.02(I)(1) states:

Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102 (e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. This change to 35 U.S.C. 103(c) applies to all utility, design and plant patent applications filed on or after November 29, 1999, including continuing applications filed under 37 CFR 1.53(b), continued prosecution application filed under 37 CFR 1.53(d), and reissues."

The invention claimed in the instant patent application was subject to an obligation of assignment to Agilent Technologies, Inc. An assignment executed by inventors Diane D. Ilsley, Douglas A. Amorese, Michael P. Caren, Peter Tsang was recorded on 04/02/2003 (Reel/Frame 013535/0705).

U.S. Patent No. 6,221,653 was owned by Agilent Technologies, Inc. at the time that the invention of the present application was made, as evidenced by an assignment by the Hewlett-Packard Co. to Agilent Technologies, Inc., recorded on 5/30/2000 (Reel/Frame 010977/0540). Previous assignments for the same parent application are from the Hewlett-Packard Co. to the Hewlett-Packard Co. recorded on 4/24/2000 (Reel/Frame 010759/0049), and from the inventors Michael Caren and Kevin Luebke to Hewlett-Packard recorded on 6/28/1999 (Reel/Frame 010048/0983).

As can be seen in view of these two assignments, the subject matter of the cited Caren patent and the presently claimed invention were, at the time the invention was made, both owned by Agilent or both under an obligation of assignment to Agilent. As such, in accordance with §103(c), the Caren patent cannot preclude patentability of the claims of the present application under §103.

Accordingly, the Applicants respectfully request the rejection of Claims 1, 2, 4-10, 12-28, and 35 under 35 U.S.C. § 103 (a) over Caren be withdrawn.

Claims 1, 2, 4-10, 12-28, and 35 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Caren et al (U.S. 6,797,469; issued 09/28/2004, filed 3/24/2001).

The Applicants submit herewith a Declaration of Diane D. Ilsley, Douglas A. Amorese, Michael P. Caren and Peter Tsang under 37 C.F.R. §1.131, which provides a showing of facts that the inventors conceived of the

claimed invention prior to the 8/23/01 earliest publication date of the Caren reference.

In view of this Declaration, the Applicants' contend that Caren '469 only qualifies as prior art under 35 U.S.C. § 102(e).

As stated in MPEP § 706.02(I)(1):

Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102 (e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. This change to 35 U.S.C. 103(c) applies to all utility, design and plant patent applications filed on or after November 29, 1999, including continuing applications filed under 37 CFR 1.53(b), continued prosecution application filed under 37 CFR 1.53(d), and reissues."

The invention claimed in the instant patent application was subject to an obligation of assignment to Agilent Technologies, Inc. An assignment executed by inventors Diane D. Ilsley, Douglas A. Amorese, Michael P. Caren, Peter Tsang was recorded on 04/02/2003 (Reel/Frame 013535/0705).

The parent (U.S. Patent No. 6,221,653) of the Caren '469 continuation patent cited as art was owned by Agilent Technologies, Inc. at the time that the invention of the present application was made, as evidenced by an assignment by the Hewlett-Packard Co. to Agilent Technologies, Inc., recorded on 5/30/2000 (Reel/Frame 010977/0540). Previous assignments for the same parent application are from the Hewlett-Packard Co. to the Hewlett-Packard Co. recorded on 4/24/2000 (Reel/Frame 010759/0049), and from the

inventors Michael Caren and Kevin Luebke to Hewlett-Packard recorded on 6/28/1999 (Reel/Frame 010048/0983).

As can be seen in view of these two assignments, the subject matter of the cited Caren patent and the presently claimed invention were, at the time the invention was made, both owned by Agilent or both under an obligation of assignment to Agilent. As such, in accordance with §103(c), the Caren patent cannot preclude patentability of the claims of the present application under §103.

Therefore, the Caren '469 patent is not available as prior art against the claimed invention of the present application under §102 (e). The claims thus cannot be rejected under § 103(a).

In view of the above arguments, the Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of Claims 1, 2, 4-10, 12-28, and 35 over Caren et al. (U.S. 6,797,469) be withdrawn.

CONCLUSION

In view of the amendments and remarks above, along with the enclosed Invention Disclosure and Declaration under 37 C.F.R. §1.131, the Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Bret Field at (650) 327-3400.

The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078, order number 10991398-1.

Respectfully submitted,

Date: May 29, 2007

By: 
Lynn J. Kidder
Registration No. 56,107

Date: May 29, 2007

By: 
Bret E. Field
Registration No. 37,620

enc:

- Declaration under Rule 1.131

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599